

### **AMENDMENTS TO THE DRAWINGS**

The drawing sheets attached in connection with the above-identified application containing Figures 2 and 7-8 are being presented as new formal drawing sheets to be substituted for the previously submitted drawing sheets. Figures 2 and 7-8 have been amended. No annotated copy of the previous drawing sheets is believed required, pursuant to M.P.E.P. §§ 608.02(v)-(w), and replacement Figures 2 and 7-8 are meant to show originally filed Figures 2 and 7-8 clearly.

### **REMARKS**

Applicants respectfully request reconsideration of the present application in view of the foregoing amendments and in view of the reasons that follow.

Claims 1-16 were pending. Claims 1-16 are cancelled, without prejudice or disclaimer, and claims 17-22 are added presently. Upon entry of this response, claims 17-22 will be pending.

The new claims are amply supported by the specification. For instance, page 12, line 9 – page 15, line 14; page 17, line 1 – page 18, line 19; page 19, line 1 – page 20, line 2; and Figure 12 of the application as filed.

#### **Drawing Objections**

The drawings are subject to objection because Figures 2, 7, and 8 are deemed not of sufficient quality to identify the features. Corrected drawing sheets are attached, in compliance with 37 C.F.R. § 1.121(d), and withdrawal of the objection is requested.

#### **Claim Objections**

Claims 8-12 are objected to under 37 C.F.R. § 1.75(c) for alleged improper form. Claims 8-12 have been cancelled, however, rendering the objection moot.

#### **35 U.S.C. § 112 Rejection**

Claims 2 and 5 are rejected for alleged indefiniteness. The claims, too, have been cancelled, and so the objection is obviated without applicants' having acquiesced to the examiner's stated rationale.

#### **Rejection of Claims 1-5, 13, and 14 Over Kittrell**

Claims 1-5, 13, and 14 are rejected under 35 U.S.C. § 102(b) over U.S. Patent No. 4,913,142 ("Kittrell"). Without acceding to the stated grounds for rejection, applicants have chosen to advance prosecution by cancelling the claims in question, thereby obviating this rejection.

**Rejection of Claims 6, 7, 15, and 16 Based on Kittrell and Marchitto**

Claims 6, 7, 15, and 16 are rejected for alleged obviousness over Kittrell in view of U.S. Published Application No. 2002/0016533 (“Marchitto”). Since these claims have been cancelled, however, their rejection is rendered moot.

**New Claims**

For the reasons detailed below, the various grounds for rejection lodged against the canceled claims are inapposite to the claims added presently.

***Claims 17-19***

Independent claim 17 is directed to a device for closing a hole in a blood vessel that remains after a sheath for holding a catheter is inserted and then withdrawn from the blood vessel. The claimed device includes, *inter alia*, “a light-conveying element that consists essentially of one or two pairings of a generator and an optical fiber operationally connected thereto, wherein (i) each generator generates light and each optical fiber transmits that light and (ii) each optical fiber is positioned within the sheath.”

The prior art illustrated by Kittrell and Marchitto fails to disclose and would not have suggested all of the elements of claim 17.

Kittrell teaches optical fibers 20a, b, b', c, and c', all disposed within a catheter body 16, which accommodate laser radiation (see col. 7, lines 65-67, and col. 8, lines 61-66). Radiated light is backscattered by a beam splitter (see col. 24, lines 17-37). A detector 64 helps to determine whether any fiber among this plurality of optical fibers is positioned where plaque also is present (see col. 24, line 17 – col. 8, line 36).

Pursuant to Kittrell, therefore, the detector 64 determines an *array* of positions, where each position corresponds to a different optical fiber 20a, b, b', c, and c.' Thus, Kittrell fails to teach or suggest “a light-conveying element that ***consists essentially of*** one or two pairings of a generator and an optical fiber operationally connected thereto, wherein (i) each generator generates light and each optical fiber transmits that light and (ii) each optical fiber is positioned within the sheath,” as recited in claim 17 (emphasis added). That is, “consists essentially of” limits the scope of the light conveying element to accommodate in-sheath positioning of only one or two “pairings” as opposed to Kittrell which teaches determining an array of positions.

Kittrell's teaching of an array of positions would materially affect the basic and novel characteristics of the claimed light conveying element.

The examiner relies on Marchitto to disclose irradiating a tissue at specific wavelengths or using wavelengths that are absorbed by hemoglobin in particular (Office Action, pg. 6). Even were the reference properly interpreted in this manner, however, Marchitto still would not suggest "a light-conveying element that consists essentially of one or two pairings of a generator and an optical fiber..." etc., as claim 17 prescribes. That is, "consists essentially of" limits the scope of the light conveying element to accommodate in-sheath positioning of only one or two "pairings" as opposed to Marchitto. The examiner's reliance on Marchitto would materially affect the basic and novel characteristics of the claimed light conveying element.

Claims 18 and 19 depend from claim 17. Accordingly, they are allowable for at least the reasons that claim 17 is allowable in addition to their additional recitations.

***Claims 20-22***

Independent claim 20 is directed to a method for closing a blood-vessel hole formed in the manner discussed above. The claimed method entails "introducing one or two optical fibers into the sheath" that forms the hole. The method also involves "detecting monitoring light backscattered from the blood so as to ascertain the position of [an] optical fiber relative to the blood vessel," in order that, when the position of the fiber "is determined to be such that the distal end of the optical fiber is within the hole," whereupon "a welding laser" is generated and transmitted "through an optical fiber in the sheath to impinge on the blood vessel."

The art of record fails to disclose and would not have suggested all of the elements of claim 20. As previously noted, Kittrell's detector 64 helps to determine whether each optical fiber is at plaque position. Yet, the optical fibers 20a, b, b', c, and c' are not themselves positioned but rather remain stationary. By contrast, claim 20 recites the use of one or two optical fibers and the detecting of monitoring light, backscattered from the blood, so as to ascertain the position of the optical fiber relative to the blood vessel. A welding laser is generated when the position of the distal end of the optical fiber is determined to be within the hole. Accordingly, Kittrell fails to teach or suggest, "introducing one or two optical fibers into the sheath," and, "(C) detecting monitoring light backscattered from the blood so as to ascertain the position of the optical fiber relative to the blood vessel; and, when said position is determined

to be such that the distal end of the optical fiber is within the hole,” a “welding laser” is generated and transmitted “through an optical fiber in the sheath to impinge on the blood vessel.”

Claims 21-22 depend from claim 20. In addition to their further recitations, they are allowable for the reasons that claim 20 is allowable.

### CONCLUSION

Applicants submit that this present application is in condition for allowance, and an early indication to this effect is requested. Examiner Lipitz also is invited to contact the undersigned directly, should he feel that any issue warrants further consideration.

The Commissioner is hereby authorized to charge any additional fees, which may be required under 37 C.F.R. §§ 1.16-1.17, and to credit any overpayment to Deposit Account No. 19-0741. Should no proper payment accompany this response, then the Commissioner is authorized to charge the unpaid amount to the same deposit account. If any extension is needed for timely acceptance of submitted papers, then Applicants hereby petition for such extension under 37 C.F.R. §1.136 and authorize payment of the relevant fee(s) from the deposit account.

Respectfully submitted,

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